

**Bureau of Land Management, Buffalo Field Office, Wyoming  
Bright Spring Draw, Throne John and E. (Bekebrede), Cottonwood Draw, Carson O and  
RJ (Middle Spotted Horse), Mumma Draw, Carson Dan (Recluse Road), TD Southwest,  
and Barbe Dorie J (Upper SA Creek) Allotments Grazing Lease Renewals  
Environmental Assessment (EA), WY-070-EA12-232**

**1.0 Introduction**

**PROJECT TITLE:** Northern Campbell County Allotments Term Grazing Lease Renewals

**LOCATION:** Bright Spring Draw allotment (12219);

T53N, R74W: Section 1 lot 20

Section 12 lots 1, 7, 8, 9, and 10

238.85 acres of public land

Throne John and E (renamed Bekebrede) allotment (02337);

T50N, R74W: Section 12 lots 4, 5, and 12

122.49 acres of public land

Cottonwood Draw allotment (02477);

T54N, R73W: Section 33 lots 2, 3, 4, 7, 9, and 10

Section 35 lots 9, 10, 15, and 16

406.17 acres of public land

Carson, O. and R.J. (renamed Middle Spotted Horse) allotment (12052);

T55N, R75W: Section 15 lots 9, 10, 11, and 12

Section 26 lots 2 and 3

239.57 acres of public land

Mumma Draw allotment (22128);

T53N, R73W: Section 3 lot 19

Section 13 lots 3 and 4

Section 14 lot 3

Section 15 lots 2 and 3

243.73 acres of public land

Carson, Dan (renamed Recluse Road) allotment (12053);

T54N, R74W: Section 15 lots 15 and 16,

80.78 acres of public land

TD Southwest allotment (02458);

T54N, R74W: Section 5 lot 20

Section 9 lot 16

Section 17 lot 10

120.18 acres of public land

Barbe Dorie J (renamed Upper SA Creek) allotment (22011)

T56N, R74W: Section 27 lot 4

Section 28 lots 8 and 9 16  
122.28 acres of public land

*(see attached maps)*

**PREPARED BY:** Kay Medders, Rangeland Management Specialist BLM, BFO

**CASEFILE NUMBERS:** 4907364, 4907150, 4907057, 4907091, 4907123, 4907093, 4907397,  
and 44907020

**APPLICANTS:** Roy and Debra Knutson, Throne Ranch Company, Randy and Gail Bulkley, Orville and Ronna Jean Carson, David Tate, C&F Ranch LLC, Donald R. Spellman, and Dorie Barbe Estate.

This site-specific EA tiers to and incorporates by reference the Buffalo Resource Management Plan (RMP), 1985, and the 2001, 2003, and 2011 amendments. This EA follows the format in Chapter 8 of the BLM National Environmental Policy Act (NEPA) Handbook, H-1790-1.

### **1.1 Background**

The following table shows the current grazing lessee, the allotment they currently lease and the date the previous grazing lease expired.

**Table 1. Allotments Addressed in this EA**

<b>Current Grazing Lessee</b>	<b>Allotment</b>	<b>Date the Lease Expired</b>
Roy and Debra Knudson	Bright Spring Draw	02/28/2012
Throne Ranch Company	Bekebrede	02/28/2011
Randy and Gail Bulkley	Cottonwood Draw	02/28/2009
Orville and Ronna Jean Carson	Middle Spotted Horse	02/28/2009
David Tate	Mumma Draw	05/31/2012
C&F Ranch LLC	Recluse Road	02/28/2012
Donald R. Spellman	TD Southwest	02/28/2011
Dorie Barbe Estate	Upper SA Creek	02/28/2012

Each of the current grazing lessees has applied for renewal of the grazing lease authorizing grazing on their allotment. Per 43 CFR 4110, the current grazing lessees have preference in retaining the grazing privileges attached to these properties.

David Tate leases the base property from the landowner, Joy and Dean W. Hall Trust. The 3-year term of the proposed lease coincides with the terms of the lease agreement between the landowner and this lessee.

For ease of administration, and in accordance with BLM IM 2005-194, four of the allotments are being renamed. The Carson Dan Allotment will be renamed the Recluse Road allotment, the Carson O. and R.J. allotment will be renamed the Middle Spotted Horse allotment, the Throne John and E. allotment will be renamed the Bekebrede allotment and the Barbe Dorie J allotment

will be renamed the Upper SA Creek Allotment. These allotments will be referred to by these names for the remainder of this document.

These eight allotments are being analyzed in a single document due to their proximity to one another, they are all located within northern Campbell County, and they have similar vegetative and topographic characteristics. BLM is analyzing these allotments and their associated grazing leases on a larger scale in order to evaluate the effects of the proposed action on the wider environment and to better capture cumulative impacts.

### **1.2 Purpose and Need for the Proposed Action**

The BLM promotes healthy sustainable rangeland ecosystems and provides for the sustainability of the western livestock industry and communities that are dependent upon productive, healthy public rangelands while complying with land use plans and multiple use objectives, including environmental and economic values, as provided in 43 CFR 4100, the Taylor Grazing Act of 1934 and the Federal Land Policy and Management Act (FLPMA) of 1976. The proposed action would allow livestock grazing on public land through the exercise of grazing preference attached to controlled base property while considering these multiple use objectives (43 CFR 4110).

There is need for the action due to the requirement that an individual or group desiring to graze livestock on public land must hold a valid grazing authorization in the form of a permit or lease; the BLM is to balance the authorization with other uses of public land. The current grazing lessee has a preference to receive the authorization if grazing is to continue on the associated allotment. The BLM issued the current grazing leases under Public Law 106-291 allowing for authorization of grazing leases until completion of environmental analysis.

### **1.3 Decisions to be Made**

The BLM will decide whether or not to issue a grazing lease with no change in terms and conditions to Roy and Debra Knudson for the Bright Spring Draw allotment, to Throne Ranch Company for the Bekebrede allotment, to Randy and Gail Bulkley for the Cottonwood Draw allotment, to Orville and Ronna Jean Carson for the Middle Spotted Horse allotment, to David Tate for the Mumma Draw allotment, to C&F Ranch LLC for the Recluse Road allotment, to Donald R. Spellman for the TD Southwest allotment, to Dorie Barbe Estate for the Upper SA Creek allotment and how to balance the proposed actions with multiple public uses. Table 2 has information for each allotment and the proposed terms and conditions for grazing lease.

### **1.4 Scoping and Issues**

The BLM conducts its decision-making in accordance with the requirements of the Council on Environmental Quality (CEQ) regulations implementing NEPA, and the Department of Interior (DOI) and BLM policies and procedures implementing NEPA. NEPA and the associated regulatory and policy framework require federal agencies to involve the interested public in their decision-making.

This EA received internal scoping. The identified issues are:

- How would the proposed action affect current livestock grazing management?
- Would the proposed action impact invasive species?

- Would and how would the proposed action affect any special status species, particularly sage-grouse (candidate species)?
- Would the proposed action impact migratory bird habitats or populations?
- Would the proposed action impact raptor habitats or populations?
- Would the proposed action impact cultural resources and/or lands with wilderness characteristics?

A draft version of this EA is sent to interested parties of record and is posted on the Buffalo Field Office (BFO) website to solicit public and cooperating agency comments over a 30-day period. The BFO uses received comments to assess whether the draft EA covers the issues raised and adequately addresses their significance. The BFO's response consists of either addressing public comments in the decision record or results in the preparation of a final EA.

## 2.0 PROPOSED ACTION AND ALTERNATIVES

### 2.1 Alternative A – No Livestock Grazing

Under this alternative the BLM will not permit livestock grazing on the Bright Spring Draw, Bekebrede, Cottonwood Draw, Middle Spotted Horse, Mumma Draw, Recluse Road, TD Southwest, and Upper SA Creek allotments. The existing grazing leases will expire in accordance with 43 CFR parts 4100 and 1600 to eliminate grazing on these allotments.

### 2.2 Alternative B- Proposed Action – Issuance of Lease without Modification

The BLM Buffalo Field Office proposes to maintain and improve land health and enhance habitat conditions on public lands in the BFO stewardship area by maintaining and/or enhancing upland grassland health and sagebrush habitats (species composition and structure) and maintaining riparian, wetland, and aquatic habitats through existing livestock grazing management.

The BLM also proposes to issue a new 10-year term grazing lease to all of the following grazing lessees, unless the base property is leased from the landowner. In that case (Mumma Draw allotment), the expiration of the BLM grazing lease will coincide with the expiration of the base property lease. There are no modifications to the terms and conditions outlined in the expiring lease. Table 2 lists the details of these BLM grazing leases.

**Table 2. Allotment Terms and Conditions**

Author. Number	Allotment Name	Livestock		Season of Use	% Public Land	AUMs	Type Use
		Number	Kind				
4907354	Bright Spring Draw (12219)	6	Cattle	3/01 – 2/28	85	61	Active
4907595	Bekebrede (02337)	66	Cattle	3/01 – 2/28	3	24	Active
4907057	Cottonwood Draw (02477)	72	Cattle	5/01 – 11/20	15	72	Active
4907091	Middle Spotted Horse (12052)	110	Cattle	3/01 – 7/25	3	16	Active
		110	Cattle	8/15 – 2/28	3	21	Active
4907213	Mumma Draw (22128)	4	Cattle	3/01 – 2/28	100	54	Custodial
4907093	Recluse Road	80	Cattle	6/01 – 10/31	4	16	Active

	(12053)						
4907397	TD Southwest (02458)	85	Cattle	3/01 – 2/28	2	20	Active
4907020	Upper SA Creek (22011)	56	Cattle	3/01 – 2/28	2	13	Active

\*BLM recognizes that these allotments consist primarily of non-federal lands. As such, BLM will not limit the season of use or number of livestock as long as grazing use is not to the detriment of the public lands. The lease schedule shown is primarily for billing purposes.

The proposed action will issue new term grazing leases to Roy and Debra Knutson, Throne Ranch Company, Randy and Gail Bulkley, Orville and Ronna Jean Carson, David Tate, C&F Ranch LLC, Donald R. Spellman, and Dorie Barbe Estate. The applicants are currently in good standing with the BLM and meet all mandatory qualifications for obtaining a grazing lease per 43 CFR 4110.1 and 4110.2. In accordance with Title 43 CFR 4130.2(a), “Grazing permits or leases shall be issued to qualified applicants to authorize use on the public lands and other lands under the administration of the Bureau of Land Management that are designated as available for livestock grazing through land use plans.”

The applicant is not proposing any projects or other surface disturbing activities in connection to this lease issuance. The BLM will analyze any future range improvement projects associated with this allotment under separate, site-specific EAs.

### **2.3 Conformance with Land Use Plan and Other Laws, Regulations, and Policies**

The proposed action is in conformance with the Record of Decision for the Buffalo Resource Management Plan, 1985, the 2001, 2003, and 2011 amendments, the Buffalo Final Environmental Impact Statement (FEIS), and the Powder River Basin Oil & Gas Project (PRB FEIS), 2003. The action is also consistent with the land use plan terms and conditions as required by 43 CFR 1610.5-3(a). The Buffalo RMP FEIS analyzed the impacts of grazing.

This EA fulfills the 1969 National Environmental Policy Act (NEPA) requirement for site-specific analysis. The proposed action is in accordance with the following laws and/or regulations, other plans, and is consistent with federal, state, local laws, and regulations:

- Taylor Grazing Act of June 30, 1934
- Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.)
- Public Rangelands Improvement Act of 1978
- Endangered Species Act of 1973
- 43 CFR § 4100 Grazing Administration-Exclusive of Alaska
- Clean Water Act Section 303d
- National Historic Preservation Act of 1966 Section 106
- National Environmental Policy Act of 1969
- Sikes Act of 1969 (Habitat Improvement on Public Land)
- Fish and Wildlife Improvement Act of 1978
- Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds
- Grazing Regulations as codified in 43 CFR § 4100 as amended in 2005
- DOI Secretarial Order No.3310—Protecting Wilderness Characteristics on Lands Managed by the BLM, Dec. 2010

- BLM Instruction Memorandum No. WY-2012-019, Greater Sage-Grouse Habitat Management Policy on Wyoming Bureau of Land Management Administered Public Lands including the Federal Mineral Estate

BLM IM WY-2012-019 requires the BLM to address a reasonable range of alternatives in livestock grazing EAs in order to assess the impacts of livestock grazing on Greater Sage-Grouse (GSG) habitat and land health. The IM also stipulates that a deferred grazing system alternative should be considered if the size of the allotment warrants it. The size and continuity of the public lands in these allotments make a BLM-administered deferred or rest-rotation grazing system an unreasonable alternative in this specific case. These allotments are category “C” allotments, meaning their management is custodial in nature. Intensive management of category “C” grazing allotments is at a public cost which largely outweighs public benefit; see generally, *Ted Lapis v. U.S.*, 178 IBLA 62 (2009).

### **2.3.1 Wyoming Standards for Rangeland Health**

Particularly applicable to livestock grazing management by the BLM are the Wyoming Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management. The Secretary of the Interior developed and approved the Standards and Guidelines on August 12, 1997. They address watersheds, ecological condition, water quality and habitat for special status species. These policies and guidelines are critical to achieving ecologically sustainable range management.

The regulation at 43 CFR 4180.1 details four fundamentals of rangeland health. They are:

1. Watersheds are in or are making progress toward properly functioning physical condition, including their upland, riparian-wetland, and aquatic components; soil and plant conditions support water infiltration, soil moisture storage, and the release of water that are in balance with climate and landform and maintain or improve water quality, water quantity, and timing and duration of flow.
2. Ecological processes including the hydrologic cycle, nutrient cycle, and energy flow are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities.
3. Water quality complies with state water quality standards and achieves, or is making significant progress toward achieving established BLM management objectives such as meeting wildlife needs.
4. Habitats are, or are making significant progress toward, being restored or maintained for Federal threatened and endangered species, Federal Proposed, Category 1 and 2 Federal Proposed Candidate and other special status species.

The BLM developed the Wyoming Standards for Healthy Public Rangelands and Guidelines for Livestock Grazing Management (S&Gs) to achieve the four fundamentals of rangeland health detailed above. These Standards relate the minimal acceptable conditions for BLM administered public rangelands, including the health, productivity, and sustainability of the land. Observing,

measuring, and monitoring field conditions of range sites, on a watershed scale, determine whether a Standard is being achieved. In accordance with the grazing regulations, if livestock grazing practices are found to be contributing to a failure to meet a Standard, corrective action is developed and implemented before the next grazing season. Guidelines provide reasonable, responsible, and cost-effective management practices at the grazing allotment and watershed levels to attain and maintain rangeland Standards. These management practices either maintain existing desirable conditions or move rangelands toward statewide Standards within reasonable timeframes.

The six Standards for Healthy Public Rangelands are:

Standard 1: Within the potential of the ecological site (soil type, landform, climate, and geology), soils are stable and allow for water infiltration to provide for optimal plant growth and minimal surface runoff.

Standard 2: Riparian and wetland vegetation have structural, age, and species diversity characteristic of the state of channel success and is resilient and capable of recovering from natural and human disturbance in order to provide forage and cover, capture sediment, dissipate energy, and provide for ground water recharge.

Standard 3: Upland vegetation on each ecological site consists of plant communities appropriate to the site which are resilient, diverse, and able to recover from natural and human disturbance.

Standard 4: Rangelands are capable of sustaining viable populations and a diversity of native plant and animal species appropriate to the habitat. Habitats that support or could support threatened species, endangered species, species of special concern, or sensitive species will be maintained or enhanced.

Standard 5: Water Quality meets state standards.

Standard 6: Air Quality meets state standards.

The Buffalo RMP has been amended to adopt the Wyoming Standards for Healthy Rangelands. An assessment of the S&Gs has not yet been conducted for any of these allotments. These allotments are “C” category allotments, which are low priority for evaluation (see Section 3.3). In 1998 the BFO developed a schedule for evaluating S&Gs. The allotments on this 1998 schedule are all in the “I” and “M” categories, which are highest priority for management and evaluation as described in the WY S&Gs Implementation Plan. Active management of category “C” isolated public lands is at a public cost and management effort largely beyond the scope of generating public benefit; see generally, *Ted Lapis v. U.S.*, 178 IBLA 62 (2009).

### **3.0 AFFECTED ENVIRONMENT**

#### **3.1 Introduction**

##### **3.1.1 Location**

The Bright Spring Draw, Bekebrede, Cottonwood Draw, Middle Spotted Horse, Mumma Draw, Recluse Road, TD Southwest, and Upper SA Creek allotments are located in the northern Campbell County, Wyoming approximately 15 to 30 miles north of Gillette, Wyoming. The allotments are a mixture of public, private, and state lands (lands managed by the Wyoming Office of State Lands and Investments). Private lands compose the majority of the allotments. There is no legal public access to the public lands in any of the allotments, except one 80 parcel in the Mumma Draw allotment. Table 3 summarizes approximate land ownership distribution in each allotment.

**Table 3. Summary of Land Ownership in Allotments**

Allotment Name	Land Ownership (approx. acres)			AUMs	Public Access
	BLM	Private	State		
Bright Spring Draw	238.85	1040		61	No
Bekebrede	122.49	6100		24	No
Cottonwood Draw	406.17	2280		72	No
Middle Spotted Horse	239.57	1600		37	No
Mumma Draw	243.73	8790	1280	54	One 80 acre parcel
Recluse Road	80.78	3150		16	No
TD Southwest	120.18	3575	800	20	No
Upper SA Creek	122.28	1900		13	No

### 3.1.2 General Description

The allotments are typical of the land forms, soils, and vegetation in the area of influence for the Lower Powder River drainage system. Differences in dominant species within the allotment vary with soil type, aspect, topography, and water availability. Annual precipitation is the principal factor limiting forage production. Floodplains and lowlands with intermittent streams are the most productive sites and the very steep escarpments, ridges, and slopes are the least productive. All stream channels found in the allotments are intermittent streams. This means that water flow generally only occurs during spring runoff. No true wetland or riparian areas occur within public lands on the allotments.

The public lands in these allotments are clearly lacking in wilderness characteristics due to their small size (less than 5,000 acres).

The soils within the Bright Spring Draw, Bekebrede, Cottonwood Draw, Middle Spotted Horse, Mumma Draw, Recluse Road, TD Southwest, and Upper SA Creek allotments vary depending on topographic location, slope, elevation, and precipitation. The climate of the area is characterized by relatively low amounts of precipitation, averaging between 15 and 17 inches annually. The majority of soils within these allotments are loams and shallow loams.

Wyoming big sagebrush is a significant component of the plant community associated with loamy sites, with densities ranging from 2-12% throughout the allotments. Cool-season mid-grasses make up the majority of the understory with the balance made up of short warm-season grasses, introduced annual grasses, and miscellaneous forbs. The dominant cool season mid-grass species include rhizomatous wheatgrasses, green needlegrass (*Nassella viridula*), and needleandthread (*Hesperostipa comata*). Grasses can account for up to 75% of the vegetation in



this type of ecological site. With an elevation ranging from 3800 feet to approximately 4400 feet, the growing season is short, consisting of the months of April through late-July.

Historically, native plants in northeastern Wyoming evolved under prehistoric conditions which included grazing and browsing by bison and other native ungulates, and an associated low frequency of fire. This community is well suited to grazing by both domestic livestock and wildlife year round.

### 3.1.3 Energy Development

The BLM permits federal mineral development (coal bed natural gas, conventional oil, solid minerals, and coal) in the PRB. This includes federal minerals below federal and/or private (split estate) surface. The BLM prepares EAs, as required by NEPA, for this federal mineral development. In general, companies submit proposals in the form of plans of development (PODs) that may consist of 1 to 200 wells. An EA specific to each POD analyzes the environmental impacts from federal mineral development, and these documents are incorporated here by reference.

**Table 4. Fluid Mineral Plans of Development Overlapping or Adjacent to Allotments**

Allotment	POD Name	Operator
Bright Spring Draw	Long Draw	Williams Energy
Bekebrede	Oriva	Pauper's Dream
Cottonwood Draw	Carson	Yates Petroleum
Middle Spotted Horse	Spotted Horse Creek	Williams Energy
Mumma Draw	Carson	Yate Petroleum
	Noah Draw	Pinnacle
Recluse Road	Gas Draw	Williams Energy
	Compass	Yates Petroleum
TD Southwest	Gas Draw	Williams Energy
	Mustang	Storm Cat Energy
Upper SA Creek	North's Stone Throw	JM Huber
	North East Spotted Horse 2	Palo

**This grazing lease issuance does not affect the following resources, which receive no further analysis:**

Air Quality	Recreation
Areas of Critical Environmental Concern (ACEC)	Soils
Environmental Justice	Traditional Cultural Properties
Prime or Unique Farmlands	Visual Resource Management
Flood Plains	Water Quality and Prime or Sole Source of Drinking
Hazardous or Solid Wastes	Water
Mineral Resources	Wetlands and Riparian Zones
Native American Religious Concerns	Wild and Scenic Rivers
Paleontology	Wilderness Values

### 3.2 Cultural Resources

Class III inventory for cultural resources has not occurred on the majority of the allotments, although the Wyoming Cultural Records Office database revealed that inventories related primarily to oil and gas development have discovered cultural sites. The Bright Springs Draw Allotment contains two known cultural sites, one of which is eligible for the National Register of Historic Places (NRHP) (48CA4361) and one is unevaluated for the NHRP (48CA4360). The Cottonwood Draw Allotment contains one known cultural site which is not eligible for the NRHP (48CA6517). The Middle Spotted Horse, Mumma Draw, Recluse Road, TD Southwest, and Upper SA Creek Allotments contain no known cultural sites. There may be many more unrecorded cultural sites, some which may be eligible for listing on the National Register, within the allotments.

### **3.3 Livestock Grazing**

In 1985, BLM established three categories for allotments to identify areas where management was potentially needed, as well as to prioritize workloads and the use of range improvement funds. The categories classify allotments as Improve Existing Resource Conditions (I), Maintain Existing Resource Conditions (M), or Custodial Management (C) (USDI 2008). The Bright Spring Draw, Bekebrede, Cottonwood Draw, Middle Spotted Horse, Mumma Draw, Recluse Road, TD Southwest, and Upper SA Creek allotments are category “C” allotments, meaning their management is minimal in nature, due to the small amount of public land within the allotment. The BLM’s rationale for this classification is that there are no identified resource problems, and the size and continuity of the public land is not conducive to more intensive management by the BLM. The allotment has a low potential for yielding a positive return on public investment in management or rangeland project development.

As listed in Table 2, the Bright Spring Draw, Bekebrede, Cottonwood Draw, Middle Spotted Horse, Mumma Draw, Recluse Road, TD Southwest, and Upper SA Creek allotments are mixtures of State of Wyoming, federal public, and private lands. In each allotment, grazing of federal public land parcels is in conjunction with deed and State lands (where applicable).

### **3.4 Invasive Species/Noxious Weeds**

Invasive species and noxious weeds exist in the affected environment. The primary species in the allotment are downy brome or cheatgrass (*Bromus tectorum*) and to a lesser extent, Japanese brome (*Bromus Japonicus*). These annual *Bromus* species occur in such high densities and numerous locations throughout Northeast Wyoming that a control program is not considered feasible at this time.

### **3.5 Wildlife, Migratory Birds, Threatened & Endangered, Candidate and Sensitive Species**

The BLM conducted wildlife evaluations to assess the occurrence of selected wildlife species and their habitats, as well as to evaluate the anticipated effects associated with issuance of this grazing lease on the Bright Spring Draw, Bekebrede, Cottonwood Draw, Middle Spotted Horse, Mumma Draw, Recluse Road, TD Southwest, and Upper SA Creek allotments. The evaluations included selected individual species or species groupings that are ecologically, economically, or socially important.

Evaluation methods included comparison of aerial imagery (1994 to 2009) and review of wildlife geospatial datasets (available at BFO). Datasets included occurrence information for big game,

raptors, bald eagles, sage-grouse, sharp-tailed grouse, mountain plover, black-tailed prairie dogs, and sagebrush in the project area.

Wildlife habitats occurring on these allotments are results of a complex history of natural and man-caused influences. Important natural influences included short- and long-term climate variation, infrequent wildfire, and ungulate grazing; especially by bison (Baker 2006; Mack and Thompson 1982). From about 1880 to 1910, the removal of native bison, and their subsequent replacement with “vast numbers” of cattle and excessive numbers of sheep, greatly influenced the PRB, including the Bright Spring Draw, Bekebrede, Cottonwood Draw, Middle Spotted Horse, Mumma Draw, Recluse Road, TD Southwest, and Upper SA Creek allotments (Cassity 2007; Patterson 1952). The combined impacts of cattle and sheep overstocking and climate may have initiated the ongoing epicycle of gully erosion that is evident throughout the Basin (Leopold and Miller 1954). Enactment of the Taylor Grazing Act of 1934 repaired early range degradation and aided the recoveries of reduced wildlife populations (Patterson 1952).

The following tables summarize the affected environment relative to selected wildlife.

**Table 5. Summary of Species Habitat and Project Effects.**

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
<b>Amphibians</b>				
Columbia Spotted frog ( <i>Rana pretiosa</i> )	Breeds in the shallows of lakes, ponds, marshes, and small streams (NatureServe).	NP	NI	Habitat not present
Northern leopard frog ( <i>Rana pipiens</i> )	Beaver ponds, permanent water in plains and foothills (SS Policy). Swampy, cattail marshes on the plains (WGFD CWCS).	S	MIIH	Habitat may be present on public lands in the Upper SA Creek and Bekebrede allotments. Individuals and eggs may be disturbed.
<b>Birds</b>				
Baird's sparrow ( <i>Ammodramus bairdii</i> )	Grasslands, weedy fields (SS Policy). Un- or lightly grazed mixed-grass prairie, wet meadows, tallgrass prairie. Prairie w/ scattered low bushes and matted vegetation (NatureServe). In dry years, grassy slough bottoms, alkali flats, and depressions in low lying grasslands.	S	MIIH	Trampling of nests may occur. Negligible impacts from livestock or humans disrupting breeding, dislodging nests, or causing adult to leave eggs or chicks unattended.
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	Mature forest cover often within one mile of large water body (SS Policy). Nests near large lakes and rivers in forested habitat where adequate prey and old, large-diameter cottonwood or conifer trees are available for nesting (WGFD CWCS). Migrating and wintering eagles congregate near open water areas where concentrations of prey are available, such as carcasses of ungulate species, and spawning areas for kokanee, trout, and other fish (WGFD CWCS).	S	NI	Roosting and nesting habitat is present within one mile of the Middle Spotted Horse allotment. Bald eagles may use the area for foraging. Activities associated with ongoing livestock grazing operations are not likely to occur to such an extent that foraging behavior will be disrupted.
Brewer's sparrow ( <i>Spizella breweri</i> )	Basin-prairie shrub (SS Policy). Closely associated with sagebrush shrublands that have abundant, scattered shrubs and short grass (WGFD CWCS).	S	MIIH	Trampling of nests may occur. Negligible impacts from livestock or humans disrupting breeding, dislodging nests, or causing adult to leave eggs or chicks unattended.
Burrowing owl ( <i>Athene cunicularia</i> )	Grasslands, basin-prairie shrub (SS Policy). Prefers open prairie, grassland, desert, and shrub-steppe habitats, and may also inhabit agricultural areas. It depends on mammals that dig burrows, which it uses for nesting, roosting, and escape (WGFD CWCS).	S	BI	Burrowing owls prefer grazed areas and use cow manure to line their nests. Prairie dog colonies with a history of burrowing owl use occur on public land in the Middle Spotted Horse allotment. Practices such as poisoning or shooting of prairie dogs or other intentional methods of extermination on private lands in order to increase forage for livestock can potentially affect burrowing owl productivity through a reduction in nest site availability.
Ferruginous hawk ( <i>Buteo regalis</i> )	Basin-prairie shrub, grasslands, rock outcrops (SS Policy). Semi-arid open country, primarily grasslands, basin-prairie shrublands, and badlands (WGFD CWCS). Requires large tracts of relatively undisturbed rangeland and nests in rock outcrops, the ground, cutbanks, cliff ledges, or trees (WGFD CWCS).		MIIH	Suitable nesting and foraging habitat for ferruginous hawks present in the allotments. Six nests have been documented within the allotments, with one of those nests on public land. Several nests are also located in the surrounding areas. Ferruginous hawks typically build

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
				their nests on the ground on rock outcrops, creek banks, or hillsides. Negative impacts to ferruginous hawks could occur from trampling of nests, disrupting breeding, dislodging nests, or causing adult to leave eggs or chicks unattended. Livestock activity should not affect foraging behavior.
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	Basin-prairie shrub, mountain-foothill shrub (SS Policy). Grasslands interspersed with scattered trees and shrubs that provide nesting and perching sites.	S	IIIIH	Ongoing livestock operations will not result in reduced shrub cover or habitat fragmentation. Nests may be toppled by livestock.
Long-billed curlew ( <i>Numenius americanus</i> )	Grasslands, plains, foothills, wet meadows (SS Policy). Inhabits a variety of grassland types ranging from moist meadow grasslands to agricultural areas to dry prairie upland, usually near water. Prefers a complex of shortgrass prairies, agricultural fields, wet and dry meadows and prairies, and grazed mixed-grass and scrub communities. Nests on the ground in habitat that includes grass <12", bare ground, shade, abundant invertebrate prey, and a minimum on 40 acres of suitable habitat (WGFD CWCS).	S	IIIIH	Negligible impacts from livestock or humans disrupting breeding, dislodging nests, or causing adult to leave eggs or chicks unattended.
Migratory bird species (Various)	Multiple vegetation types are used for breeding, foraging and wintering, with habitat types ranging from grasslands and shrub-steppe to woodlands and riparian areas.	K	IIIIH	Trampling of nests may occur. Negligible impacts from livestock or humans disrupting breeding, dislodging nests, or causing adult to leave eggs or chicks unattended. Ongoing livestock operations should not create significant additional impacts.
Mountain plover ( <i>Charadrius montanus</i> )	Short-grass prairie with slopes < 5% (SS Policy). Low, open habitats such as arid shortgrass and mixed-grass prairies dominated by blue grama and buffalo grass with scattered clumps of cacti and forbs, and saltbush habitats of the shrub-steppe. Prefers to nest in large, flat grassland expanses with sparse, short vegetation (<=4") and bare ground. Adapted to areas that have been disturbed by prairie dogs, heavy grazing, or fire (WGFD CWCS).	S	IIIIH	Suitable plover habitat is present. Birds may prefer grazed areas. Negligible impacts from livestock or humans disrupting breeding, dislodging nests, or causing adult to leave eggs or chicks unattended.
Northern goshawk ( <i>Accipiter gentilis</i> )	Conifer and deciduous forests (SS Policy). Mixed coniferous habitat of a wide variety of ages, structural conditions, and successional stages. Nests in mature stands with multilayered canopies with open understory, small openings, and water within 0.25 miles. Nest stands often on slopes with northerly exposures or in drainages or canyon bottoms protected by such slopes. Post-fledging area is a mosaic of forest types that provide hiding cover and abundant prey. Foraging area may include a variety of forest types and structures but most often	NP	NI	Forested habitat not present.

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
	consists of forests with a high density of large trees, high canopy closure, high basal area, and relatively open understories, interspersed w/ shrublands and openings with perching trees to observe prey. Winter habitat probably includes a variety of vegetation types, such as forests, woodlands, shrublands, and forested riparian strips (WGFD CWCS).			
Peregrine falcon ( <i>Falco peregrinus</i> )	Cliffs (SS Policy). Forages in open woodlands and forests, shrub-steppe, grasslands, marshes, and riparian habitats. Nests in cliffs that are usually proximate to habitats with abundant prey (WGFD CWCS).	NP	NI	Nest substrate not present. No known breeding pairs in proximity.
Plains Sharp-Tailed Grouse ( <i>Tympanuchus phasianellus jamesi</i> )	Short and mixed-grass prairie, sagebrush shrublands, woodland edges, and river canyons. Common where grasslands are intermixed with other shrublands, especially wooded draws, shrubby riparian area, and wet meadows. Diets include a variety of forbs, grasses and insects. In winter, sharp-tailed grouse also feed on buds and catkins of deciduous trees or shrubs and berries. Birds are also known to feed on the buds of aspen and willow.	K	IIH	Properly managed grazing will maintain quality cover and habitat. Nests or chicks may occasionally be trampled. There is one lek on private land within the Mumba Draw allotment. Ongoing livestock operations are not likely to change use of this area by Sharp-tailed grouse.
Sage sparrow ( <i>Amphispiza billineata</i> )	Basin-prairie shrub, mountain-foothill shrub (SS Policy). Considered a sagebrush obligate. Inhabits prairie and foothills shrubland habitat where sagebrush is present. Prefers shrublands with tall shrubs and low grass cover, where sagebrush is clumped in a patchy landscape. Requires a large block of unfragmented habitat to successfully breed and survive (WGFD CWCS).	S	IIH	Trampling of nests may occur. Negligible impacts from livestock or humans disrupting breeding, dislodging nests, or causing adult to leave eggs or chicks unattended.
Sage thrasher ( <i>Oreoscoptes montanus</i> )	Basin-prairie shrub, mountain-foothill shrub (SS Policy). Considered a sagebrush obligate. Inhabits prairie and foothills shrubland habitat where sagebrush is present. Prefers shrublands with tall shrubs and low grass cover, where sagebrush is clumped in a patchy landscape (WGFD CWCS).	S	IIH	Trampling of nests may occur. Negligible impacts from livestock or humans disrupting breeding, dislodging nests, or causing adult to leave eggs or chicks unattended. Uncommon cowbird host, which are associated with cattle. May be more susceptible to higher parasitism pressure.
Trumpeter swan ( <i>Cygnus buccinator</i> )	Lakes, ponds, rivers (SS Policy). Inhabits shallow marshes, ponds, lakes, and river oxbows. Prefers stable, quiet, and shallow waters where small islands, muskrat houses, or dense emergent vegetation provide nesting and loafing sites. Nutrient-rich water, with dense aquatic plant and invertebrate growth, provide the most suitable habitat. Winter habitat must provide extensive beds of aquatic plants that remain ice-free. In Wyoming, cold temps and ice restrict trumpeters to sites where geothermal waters, springs, or outflow from dams maintain ice-free areas (WGFD CWCS).	S	NI	Reservoirs may attract swans during migration periods. The species is not expected to be impacted by livestock operations.
White-faced ibis	Marshes, wet meadows (SS Policy). Inhabits marshes, wet-	NP	NI	Habitat not present.

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
<i>Plegadis chihi</i>	moist meadows, lakes, and irrigated meadows. Nests on the ground in bulrushes, cattails, or reeds; on a floating mat; or in a low tree.			
Yellow-billed cuckoo ( <i>Coccyzus americanus</i> )	Open woodlands, streamside willow and alder groves (SS Policy). Nests primarily in large stands of cottonwood-riparian habitat below 7000 feet, including such habitats that occur in urban areas. It is a riparian obligate species that prefers extensive areas of dense thickets and mature deciduous forests near water, and requires low, dense, shrubby vegetation for nest sites.	NP	NI	Habitat not present. Ongoing livestock operations should not create significant additional impacts. Negligible impacts from livestock or humans disrupting breeding, dislodging nests, or causing adult to leave eggs or chicks unattended.
<b>Fish</b>				
Yellowstone cutthroat trout ( <i>Oncorhynchus clarki bouvieri</i> )	Mountain streams and rivers in Tongue River drainage	NP	NI	Habitat not present.
<b>Mammals</b>				
Black-tailed prairie dog ( <i>Cynomys ludovicianus</i> )	Prairie habitats with deep, firm soils and slopes less than 10 degrees (SS Policy). Inhabits dry, flat, open, shortgrass and mixed-grass grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle. Constructs burrows in fine to medium soils (WGFD CWCS).	K	BI	Prairie dogs often prefer habitats grazed by livestock.
Fringed myotis ( <i>Myotis thysanodes</i> )	Conifer forests, woodland chaparral, caves and mines (SS Policy). Found in a wide range of habitats, including coniferous forests, woodlands, grasslands, and shrublands. Probably most common in xeric woodlands, such as juniper, ponderosa pine, and Douglas-fir. Typically forages over water, along forest edges, or within forests and woodlands. During summer, uses a variety of roosts, including rock crevices, tree cavities, caves, abandoned mines, and buildings. During winter, it hibernates in caves, abandoned mines, and buildings (WGFD CWCS). Must remain within commuting distance of drinking water. Roosts in rock crevices that typically face southeast or southwest and are in low elevation forests or woodlands (WGFD Bat Conservation Plan).	NS	NI	Ongoing livestock grazing unlikely to affect prey abundance or availability of foraging habitat.
Long-eared myotis ( <i>Myotis evotis</i> )	Conifer and deciduous forest, caves and mines (SS Policy). Primarily inhabits coniferous forest and woodland, including juniper, ponderosa pine, and spruce-fir. Typically forages over rivers, streams, and ponds within the forest-woodland environment. During summer, it roosts in a wide variety of structures, including cavities in snags, under loose bark, stumps, buildings, rock crevices, caves, and abandoned mines. During winter, it probably hibernates primarily in caves and abandoned mines (WGFD CWCS). Occasionally found in cottonwood riparian areas, basins, and sagebrush grasslands where roost sites are available (WGFD Bat Conservation Plan).	NP	NI	Habitat not in proximity.

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
	Most likely found in areas close to a water source. May also occur more frequently in suitable habitat near rock outcroppings or cliffs. Primarily forages over rivers, streams, and ponds within the forest-woodland environment. Also forages over open areas such as campgrounds, small forest openings, and edges, although foraging areas are most likely to be close to a water source. Large-diameter conifer snags provide primary roosting habitat (WGFD Bat Conservation Plan).			
Spotted bat ( <i>Euderma maculatum</i> )	Cliffs over perennial water (SS Policy). Occupies a wide variety of habitats, from desert scrub to coniferous forest. Most often observed in low deserts and basins and juniper woodlands. Roosts in cracks and crevices in high cliffs and canyons. May occasionally roost in buildings, caves, or abandoned mines, although cliffs are the only roosting habitat in which reproductive females have been located (WGFD CWCS). Often occurs in association with canyons, prominent rock features, and permanent water sources. In desert environments, it forages in canyons, in the open, or over riparian vegetation. All recorded occurrences of spotted bats in WY were close to a permanent water source (WGFD Bat Conservation Plan).	NP	NI	Habitat not present.
Swift fox ( <i>Vulpes velox</i> )	Grasslands (SS Policy). Inhabits shortgrass and mixed-grass prairies. Often uses highway and railroad ROWs, agricultural areas, and sagebrush-grasslands. Closely associated w/ prairie dog colonies and uses underground dens year-round. Selects habitat with low-growing vegetation, relatively flat terrain, friable soils, and high den availability (WGFD CWCS).	S	MIH	Inappropriate grazing could reduce hiding cover and increase susceptibility to predation.
Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> )	Caves and mines (SS Policy). Occupies a variety of xeric to mesic habitats, including coniferous forests, juniper woodlands, deciduous forests, basins, and desert shrublands, and is absent only from the most extreme deserts and highest elevations. Requires caves or abandoned mines for roost sites during all seasons and stages of its life cycle, and its distribution is strongly correlated with the availability of these features (WGFD CWCS). May be limited to areas with reliable, accessible sources of drinking water. Forages primarily along forest and woodland edges, riparian corridors, and in open areas near wooded habitat. May avoid open, grazed pasture land.	S	NI	Ongoing livestock grazing unlikely to affect prey abundance or availability of foraging habitat.
<b>Plants</b>				
Limber Pine ( <i>Pinus flexilis</i> )	High-elevation pine, often marking the tree line either on its own, or with Whitebark Pine ( <i>Pinus albicaulis</i> ), either of the Bristlecone pines, or Lodgepole Pine ( <i>Pinus contorta</i> ). Found in steeply-sloping, rocky and windswept terrain in the Rocky	NS	NI	Habitat not present.



Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
	Mountains.			
Porter's sagebrush ( <i>Artemisia porterii</i> )	Sparsely vegetated badlands of ashy or tufaceous mudstone and clay slopes 5300-6500 ft.	NP	NI	Habitat not present
William's wafer parsnip ( <i>Cymopterus williamsii</i> )	Open ridgetops and upper slopes with exposed limestone outcrops or rockslides, 6000-8300 ft.	NP	NI	Habitat not present
<b>Presence</b> <b>K</b> - Known, documented observation within project area. <b>S</b> - Habitat suitable and species suspected, to occur within the project area. <b>NS</b> - Habitat suitable but species is not suspected to occur within the project area. <b>NP</b> - Habitat not present and species unlikely to occur within the project area. <b>Project Effects</b> <b>NI</b> - No Impact. <b>MIIH</b> - May Impact Individuals or Habitat, but will not likely contribute to a trend towards Federal listing or a loss of viability to the population or species. <b>WIPV</b> - Will Impact Individuals or Habitat with a consequence that the action may contribute to a trend towards Federal listing or cause a loss of viability to the population or species. <b>BI</b> - Beneficial Impact				

**Table 6. Summary of Threatened and Endangered Species Habitat and Project Effects**

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
<b>Threatened</b>				
Ute ladies'-tresses orchid ( <i>Spiranthes diluvialis</i> )	Riparian areas with permanent water. Sub-irrigated meadows.	NP	NE	Habitat not present on public lands in the allotments.
<b>Candidates for listing</b>				
Greater sage-grouse ( <i>Centrocercus urophasianus</i> )	Basin-prairie shrub, mountain-foothill shrub (SS Policy). Also includes wet-moist meadows, and alfalfa and irrigated meadows when adjacent to sagebrush (WGFD CWCS).	K	MIIH	There are five leks located within the Bekebrede, TD Southwest and Cottonwood Draw allotments. They are all located on private lands. Thirty-one leks are located within 4 miles of the allotments. BLM land provides suitable wintering and nesting habitat. Horizontal cover may decrease due to livestock grazing. Incubating females, eggs, and/or chicks may occasionally be trampled. Ongoing livestock operations are not likely to change current use of this area by nesting sage-grouse.
<b>Presence</b> <b>K</b> - Known, documented observation within project area. <b>S</b> - Habitat suitable and species suspected, to occur within the project area. <b>NS</b> - Habitat suitable but species is not suspected to occur within the project area. <b>NP</b> - Habitat not present and species unlikely to occur within the project area.			<b>Project Effects</b> <b>LAA</b> - Likely to adversely affect <b>NE</b> - No Effect <b>NLAA</b> - May Affect, not likely to adversely affect individuals or habitat. <b>NLJ</b> - Not likely to jeopardize continued existence <b>MIIH</b> - May impact individuals and habitat <b>NP</b> - Habitat not present and species unlikely to occur within the project area.	

### 3.5.1 Candidate Species – Greater Sage-Grouse (GSG)

This EA discusses GSG in detail because they are a candidate species, currently warranted for listing under the Endangered Species Act (USFWS 2010) and are thus of heightened management concern in the BFO. GSG are also a Wyoming BLM sensitive species and a Wyoming Game & Fish Department (WGFD) Species of Greatest Conservation Need (SGCN).

GSG habitat is present on BLM lands in the Bright Spring Draw, Bekebrede, Cottonwood Draw, Middle Spotted Horse, Mumma Draw, Recluse Road, TD Southwest, and Upper SA Creek allotments. Habitat models indicate that BLM lands in the allotments contain both high quality nesting and winter habitat (Doherty et al. 2007, Doherty 2008). The following (Table 7) is a list of GSG leks that are within the grazing allotments or are within four miles of the allotments.

**Table 7. Leks Occurring Within 4 Miles of Allotments**

<b>Lek Name</b>	<b>Located within Allotment</b>	<b>Located within 4 miles of Allotment</b>	<b>Located on Private, State or Public Land</b>
Barker Draw		Bekebrede	Private
Box Draw		TD Southwest Recluse Road	Public
Case I	TD Southwest	Middle Spotted Horse Recluse Road TD Southwest	Private
Case II	TD Southwest	Middle Spotted Horse Recluse Road TD Southwest	Private
Case III		Middle Spotted Horse Recluse Road TD Southwest	Private
Dugout Draw		Cottonwood Draw Mumma Draw	Private
Fitch Prong Road		TD Southwest Bright Spring Draw Recluse Road	Private
Hayden I		Bekebrede	Private
Hayden II		Bekebrede	BLM
Hayden Sat A.		Bekebrede	Private
Hayden Sat B.		Bekebrede	Private
Howell Draw		Middle Spotted Horse TD Southwest	Private
Kretschmann		TD Southwest	Private
Lester		Upper SA Creek	Private
McGee		Mumma Draw	Private
Mojito		Cottonwood Draw Mumma Draw	Private
Montgomery		Bekebrede	Private
New Deal		Upper SA Creek Middle Spotted Horse	Private

<b>Lek Name</b>	<b>Located within Allotment</b>	<b>Located within 4 miles of Allotment</b>	<b>Located on Private, State or Public Land</b>
Oriva II		Bekebrede	Private
Rawhide Creek		Bekebrede	Private
Ridgetop		TD Southwest Bright Spring Draw Recluse Road	Private
Spotted Horse		Middle Spotted Horse TD Southwest	Private
Squaw Creek South		Recluse Road Cottonwood Draw Mumma Draw	Private
Three Bees		Upper SA Creek	Private
Throne	Bekebrede	Bekebrede	Private
Watsabaugh I		Bekebrede	State
Watsabaugh II		Bekebrede	Private
Wildcat		TD Southwest Recluse Road Bright Spring Draw Cottonwood Draw	State
Wildhorse	Bekebrede	Bekebrede	Private
Williams Reservoir	Cottonwood Draw	Bright Spring Draw Cottonwood Draw Mumma Draw	Private
Wolfe		TD Southwest Recluse Road	Private

As noted in BLM WY-IM-2012-019, domestic livestock grazing occurred in and around these allotments and “within the range of [GSG] for over 150 years and is the most common and widespread use of rangelands in the western United States. Livestock grazing practices may affect herbaceous composition, cover, and height and has a potential to impact sagebrush habitats. WY BLM has standards and guidelines to ensure proper livestock grazing management on public lands which can help maintain healthy rangeland conditions and provide functional habitat for [GSG]. However, poor livestock grazing practices can have long-term negative impacts on [GSG] habitat by degrading sagebrush, meadow, and riparian communities (Bohne et al. 2007).”

### 3.5.2 Big Game

Big game species occurring within the Bright Spring Draw, Bekebrede, Cottonwood Draw, Middle Spotted Horse, Mumma Draw, Recluse Road, TD Southwest, and Upper SA Creek allotments include pronghorn and mule deer. Elk and white-tailed deer may occasionally use the area; however WGFD does not recognize any seasonal habitats within the allotments. The following table (Table 8) summarizes WGFD big game seasonal range data for the public land in the allotments.

**Table 8. Seasonal habitat provided on public lands in each allotment**

	<i>Mule Deer</i>	<i>Pronghorn</i>
<b>Bright Spring Draw</b>	Yearlong	Yearlong
<b>Bekebrede</b>	Yearlong	Yearlong
<b>Cottonwood Draw</b>	Winter-yearlong, Yearlong	Yearlong
<b>Middle Spotted Horse</b>	Winter-yearlong	Yearlong, Winter
<b>Mumma Draw</b>	Winter-yearlong, Yearlong	Winter-yearlong, Yearlong
<b>Recluse Road</b>	Yearlong	Yearlong
<b>TD Southwest</b>	Winter-yearlong, Yearlong	Yearlong
<b>Upper SA Creek</b>	Winter-yearlong	Yearlong

Yearlong use is when a population makes general use of suitable documented habitat sites within the range on a year-round basis, but animals may leave the area under severe conditions. Winter use is when a population or portion of a population of animals uses the documented suitable habitat sites within this range annually, in substantial numbers only during the winter period. Winter-yearlong use is when a population or a portion of a population of animals makes general use of the documented suitable habitat sites within this range on a year-round basis, but during the winter months there is a significant influx of additional animals into the area from other seasonal ranges.

The TD Southwest, Bright Spring Draw, and Recluse Road allotments also contain important habitat used by pronghorn as migration routes. As of the most recent available report, populations of pronghorn and mule deer are below WGFD objectives (WGFD 2011a).

#### **4.0 ENVIRONMENTAL EFFECTS**

This section describes the environmental effects of the no action alternative (Alternative A), and those of the proposed action, Alternative B. The effects analysis addresses the direct and indirect effects of implementing the proposed action, the cumulative effects of the proposed action combined with reasonably foreseeable federal and non-federal actions, identifies mitigation measures, and discloses any residual effects.

#### **4.1 Direct and Indirect Effects**

##### **4.1.1 Cultural Resources**

###### **Alternative A- No Grazing**

The absence of grazing will not result in impacts to cultural resources.

###### **Alternative B- Lease Renewal & Issuance**

Any activity that removes vegetation or leads to soil erosion can cause impacts to cultural resources. Livestock concentration areas (such as those that form near water sources, supplemental feeding areas, fence corners, etc.) and livestock trail formation may result in impacts to cultural resources. According to the State Protocol Agreement between the Wyoming BLM and the Wyoming SHPO, grazing lease renewals that do not include seasonal grazing changes or changes in livestock types are exempt from case-by-case review. As per Appendix B item #27 and following section IV(A)(3) of the Wyoming State Protocol, on September 24,

2012, the Bureau electronically notified the Wyoming State Historic Preservation Office (SHPO) of this grazing lease renewal.

#### **4.1.2 Livestock Grazing**

##### **Alternative A- No Grazing**

FLPMA requires the BLM to manage public lands and resources according to the principals of multiple use and sustained yield and recognizes the Nation's need for domestic sources of minerals, food, timber, and fiber. FLPMA also requires the BLM—except in cases of emergency—to give two years' notification when an authorization for domestic livestock grazing is cancelled, in whole or in part, to devote the associated lands to another public purpose, including disposal.

The Buffalo RMP states as a resource management decision that livestock grazing is allowed on all public lands in the Field Office except on about 6,000 acres where it has been determined to be incompatible with other resource uses or values.

There are no fences or natural barriers separating BLM and non-BLM land within the allotments. At this time, fencing out the public lands is not practical or cost effective. If extraordinary circumstances arise, such as the identification of an endangered plant or damageable cultural resource on the site, fencing may be a greater priority, and the BLM will address the matter in a separate EA. If the public lands are not leased, and subsequently not fenced, any livestock use occurring thereon is unauthorized. Selecting this alternative will affect how the adjacent private and state lands are grazed because the operator must keep livestock off public lands through herding or fencing, or else be in violation of federal grazing regulations. The mixed ownership pattern in the BFO makes herding difficult, in addition to the fact that herding does not ensure that public lands are not grazed. A rider needs to remain with livestock at all times. Because it is not economically feasible for the BLM to fence all federal land parcels, fences will likely be constructed on private land, fragmenting the area and making BLM unable to stipulate wire spacing to facilitate wildlife movement. Most four-strand fences on private land have a top wire of 46-48 inches with 10-12 inch wire spacing and all wires are barbed. In the absence of fences, the BLM must constantly supervise the public lands to assure they are not being grazed.

No adverse resource impacts resulting from livestock grazing have been identified which would warrant cancellation of all grazing on these allotments. The Buffalo RMP allows for adjustment of forage allocation based on an evaluation of monitoring, field observations, or other data as needed. Additionally, changes in grazing practices can be effective in mitigating impacts without a corresponding reduction in forage allocation.

##### **Alternative B- Lease Renewal & Issuance**

Rangeland vegetation inventory (MRB 1957) and ecological site description (USDA NRCS 2008) data indicate an adequate amount of forage is available to support the proposed number of livestock and for wildlife use and the effects of that use within this allotment. The new grazing lease authorizes the same numbers and kind of livestock and season of use as the expiring lease. This action is not proposing any changes to grazing management. The BLM does not expect the renewal and issuance of the grazing lease to have any effects on range management.

#### **4.1.3 Invasive Species/Noxious Weeds**

##### **Alternative A- No Grazing**

Removing livestock grazing from the public land can promote growth and potential overgrowth of perennial grasses and forbs, thus crowding out or reducing the potential for invasion of noxious and/or invasive species. However, the overgrowth of vegetation increases the availability of fine fuels, which also increases the risk of wildfire. These fires would also be more intense, allowing opportunistic noxious and invasive species to colonize the public lands. Cooperative weed control efforts could discourage overgrowth of vegetation and decrease the fire return interval.

##### **Alternative B- Lease Renewal & Issuance**

Implementing appropriate grazing use, as described in the proposed action, along with ongoing cooperative weed control efforts, benefits the health of the native plant community. A healthy native plant community often provides competition against the establishment and/or spread of noxious weeds. Issuing the grazing lease will not result in any additional impacts in relation to the spread of noxious weeds.

#### **4.1.4 Wildlife, Migratory Birds, Threatened & Endangered, Candidate and Sensitive Species**

The U.S. Fish and Wildlife Service has issued a block clearance for the PRB for the endangered black-footed ferret and threatened blowout penstemon. These species do not occur in the area. *(See tables in Section 3.5)*

##### **Alternative A- No Grazing**

If grazing is removed from the allotments, there will be “no effect” on Ute ladies’-tresses orchid, because there is no suitable habitat for this species. Ending grazing may have a negative impact on mountain plover, burrowing owls, and black-tailed prairie dogs by reducing the number of grazed areas, which provide preferred habitat for these species.

##### **Alternative B- Lease Renewal & Issuance**

*(See tables in Section 3.5)*

The proposed action will have “no effect” Ute ladies’-tresses orchid, as suitable habitat for this species is not suspected to be present in the allotments.

##### **4.1.4.1 Candidate Species**

##### **Alternative A- No Grazing**

Excluding livestock does not necessarily cause an area to return to its pre-grazing ecological condition or guarantee improvements in species richness, diversity, or vegetative production (Manier and Hobbs 2007). Some habitats reach a threshold where livestock exclusion does not have an effect on the current trend (Wambolt and Payne 1986, Sanders and Voth 1983). Other research suggests that rest from livestock grazing in Wyoming big sagebrush habitats may improve understory production while decreasing sagebrush cover (Wambolt and Payne 1986). On Wyoming big sagebrush sites with dense sagebrush and annual grass understory, eliminating livestock grazing can increase fire risk which results in habitat degradation (Peters and Bunting 1994, West 1999). If livestock grazing ends in these allotments, increased horizontal cover and decreased trampling may result in some benefits to GSG habitat.

### **Alternative B- Lease Renewal & Issuance**

The proposed action “will impact” GSG habitat. Livestock grazing can benefit or degrade GSG habitat on the allotment, depending on the timing, stocking rate, and habitat affected. Fall grazing may favor upland forb production, and spring grazing may be used to remove herbaceous cover and make forbs more accessible (Smith et al. 1979, Fulgham et al. 1982). Spring and early summer grazing may help control invasive weeds and remove woody plants, thereby decreasing the risk of wildfire that could remove large areas of habitat (Mosley 1996, Olson and Wallander 2001, Meritt et al. 2001, Riggs and Urness 1989).

Excessive or poorly managed grazing causes degradation of sagebrush ecosystems and thus GSG habitat (BLM 2002). Inappropriate grazing management in uplands can reduce perennial grasses and forbs while favoring annual grasses and increasing sagebrush cover (Branson 1985, Tisdale 1994, Beck and Mitchell 2000, Bork et al. 1998). This may impact GSG, because they rely on perennial grasses for escape cover and residual herbaceous cover for screening cover in nesting habitat. Forbs are positively associated with survival and recruitment of GSG chicks. Inappropriate grazing that damages meadows and riparian areas can harm GSG, because these areas are critical for GSG in late summer. Livestock may occasionally trample GSG nests or cause GSG to abandon their nests (Call 1979, Patterson 1952).

The stocking rates on these eight allotments range from 4 acres per AUM on grassy lowlands to 10 acres per AUM on steeper, rocky parcels of BLM. These stocking rates are derived from the production potential of the land based on topographic features, soil types, vegetative characteristics, and annual precipitation. Livestock stocking rates in the BFO are designed to meet the six Standards for Healthy Public Rangelands (see Section 1.4.1). Particularly applicable to GSG is Standard 4, which requires that rangelands be capable of sustaining viable populations and a diversity of native plant and animal species. Because staffing and workload issues limit S&G assessment on “C” category allotments, S&Gs have not been assessed on the Bright Spring Draw, Bekebrede, Cottonwood Draw, Middle Spotted Horse, Mumma Draw, Recluse Road, TD Southwest, and Upper SA Creek allotments. However, an assessment of S&Gs have been completed on the SA Creek, Whitetail Creek, Washout Draw allotments, which are located in close proximity to the allotments being analyzed, and have similar habitat and vegetative features. The assessments found the SA Creek, Whitetail Creek, Washout Draw allotments in good condition and meeting all standards. Based on these parallel assessments, the BLM expects the Bright Spring Draw, Bekebrede, Cottonwood Draw, Middle Spotted Horse, Mumma Draw, Recluse Road, TD Southwest, and Upper SA Creek allotments to be in a similar condition. Continuing to manage for the Wyoming Standards for Rangeland Health will promote GSG habitat viability.

#### **4.1.4.2 Big Game**

##### **Alternative A- No Grazing**

Under the no grazing alternative, winter browse conditions for big game would not improve. Encroaching herbaceous species may ultimately out-compete shrub species, resulting in a reduction in quality of big game winter range (Smith 1949). Additionally, livestock would not remove unpalatable standing dead material through trampling and grazing, resulting in unimproved forage.

### **Alternative B- Lease Renewal & Issuance**

By managing land to meet Rangeland Health Standards and improving overall rangeland condition, forage for elk, deer and pronghorn will improve.

Forage resources on winter ranges typically limit mule deer populations (Clements and Young 1997). Livestock grazing tends to favor shrubs over grasses, and thus may provide more desirable winter browse conditions on the allotments (Austin and Urness 1996, Austin et al. 1986, Smith 1949).

Livestock grazing may enhance big game forage by reducing unpalatable standing dead material (Short and Knight 2003). Big game and cattle may compete for forage on a minor level. There is very little dietary overlap between cattle, pronghorn, and deer during spring and early summer, since cattle feed primarily on grasses while pronghorn and deer select mostly forbs and some grasses. Cattle begin to use more forbs in late summer and fall, potentially increasing competition. Pronghorn and deer increase the amount of shrubs in their diet in fall and winter, thus reducing competition during those seasons (Anderson and McCuiston 2008).

The fences on these allotments may pose a hazard to mule deer and pronghorns. In the BFO resource area, fences have caught and trapped deer and antelope. Modifying fence in areas used by cattle to a more wildlife “safe” design with height under 48 inches and the bottom wire 16 inches from the ground may reduce this hazard.

Cattle and elk have more similar dietary preferences than cattle and other big game species, and elk have been shown to prefer sites that have already been grazed by cattle. Proper grazing management can improve winter forage conditions for big game (Anderson and Scherzinger 1975). The moderate amount of grazing occurring in these allotments should not negatively impact wintering elk herds. Livestock grazing has occurred historically on these allotments and the BLM expects no additional impacts from implementation of the proposed action.

### **4.2 Cumulative Effects**

Cumulative effects are those resulting from the incremental impact of an action when added to other past, present, or reasonably foreseeable actions regardless of what agency or person undertakes such other actions. Identified actions include noxious weed control and sage-grouse protection. If future assessments reveal that rangeland health standards are not being met due to livestock grazing, the BLM will address these issues before the start of the next grazing season as required by 43 CFR 4180.

The BLM will continue managing the Bright Spring Draw, Bekebrede, Cottonwood Draw, Middle Spotted Horse, Mumma Draw, Recluse Road, TD Southwest, and Upper SA Creek allotments to achieve the Wyoming Standards for Rangeland Health. All elements of the environment will benefit from rangelands in good health. The applicants are not proposing any projects or other surface disturbance in connection to this lease renewal, and the terms and conditions of the leases will remain the same. Thus any cumulative impacts resulting from the proposed action should be minor.



#### 4.2.1 Noxious Weeds

Noxious weeds/invasive non-native plants are present within the assessment area to varying degrees. Livestock grazing may benefit certain weeds by reducing competition with grasses but may also help control other species through defoliation. Currently the BFO is addressing the situation by mapping weed locations and treating them with herbicides or bio-controls in conjunction with the local weed and pest organizations.

#### 4.2.2 Greater Sage-Grouse (GSG)

The GSG population within northeast Wyoming is exhibiting a steady long term downward trend (FWS 2010, WGFD 2011). The figure below illustrates a ten-year cycle of periodic highs and lows. Each subsequent population peak is lower than the previous peak. Long-term harvest trends are similar to that of lek attendance (WGFD 2011b). Habitat fragmentation (resulting from oil and gas development) and West Nile virus are the primary contributors to this decline (Taylor et al. 2012, FWS 2010).

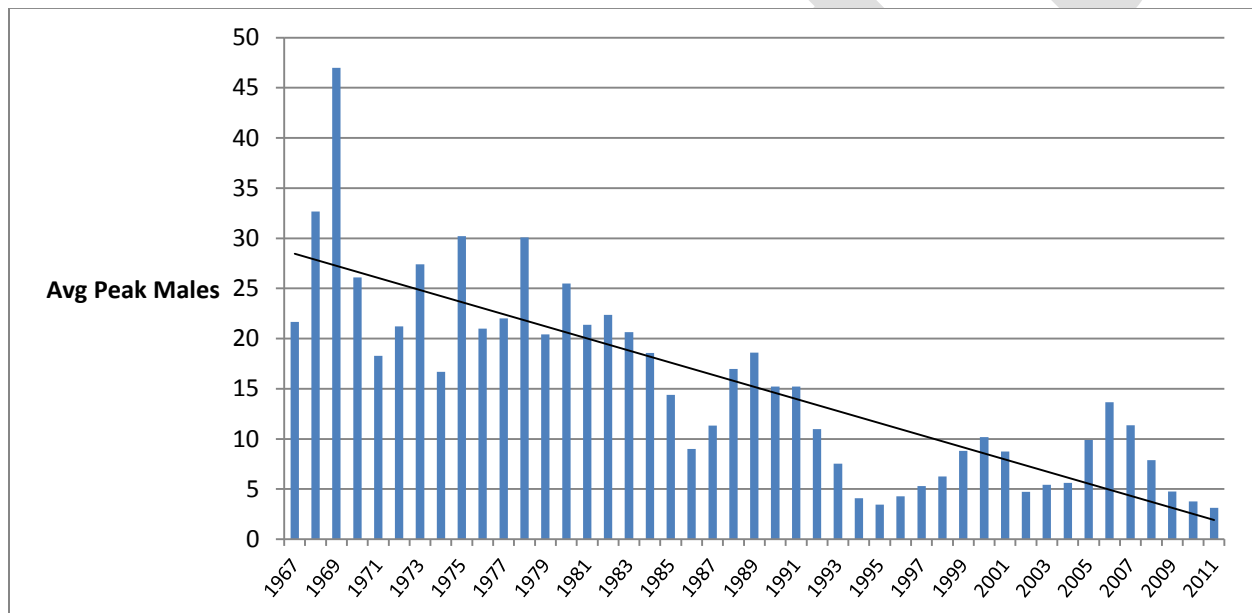


Figure 1. Average peak number of male sage-grouse per active lek and trend line within the BFO 1967-2011

#### 4.3 Mitigation Measures Considered

The terms and conditions included as part of the term grazing lease will mitigate anticipated impacts. No additional mitigation measures are proposed.

#### 4.4 Residual Effects

There are no residual impacts associated with the proposed action.

#### 5.0 Tribes, Individuals, Organizations or Agencies Consulted

Roy and Debra Knudson

Throne Ranch Company  
 Randy and Gail Bulkley  
 Orville and Ronna Jean Carson  
 David Tate  
 C&F Ranch LLC  
 Donald R. Spellman  
 Dorie Barbe Estate

## 6.0 List of Preparers

Kay Medders, Rangeland Management Specialist

### 6.1 List of Reviewers, BLM Buffalo Field Office

Name	Title	Responsibility
Darci Stafford	Wildlife Biologist	Wildlife, Migratory Birds
Ardy Hahn	Archaeologist	Cultural Resources
Chris Durham	Assistant Field Manager, Resources	Resources
John Kelley	Planning & Environmental Coordinator	NEPA Planning

## 7.0 References

- Baker, W. L. 2006. Fire and restoration of sagebrush ecosystems. Wildlife Society Bulletin 34:177-185
- Beck, J.L. and D.L. Mitchell. 2000. Influences of livestock grazing on sage grouse habitat. Wildl. Soc. Bull. 28:993-1002.
- Bohne, J., T. Rinkes, and S. Kilpatrick. 2007. Sage-Grouse Habitat Management Guidelines for Wyoming. Wyoming Game and Fish Department. Cheyenne, Wyoming.
- Bork, E.W., N.E. West, and J.W. Walker. 1998. Cover components on long-term seasonal sheep grazing treatments in three-tip sagebrush steppe. J. Range Manage. 51:293-300.
- Branson, F. A. 1985. Vegetation changes on western ranges. The Society for Range Management (Range Monograph Number 2). Denver, CO.
- Bureau of Land Management. 2002. Instruction Memorandum No. WY-2001-147, Change 1: Framework Assessment of Sage-grouse Habitat on Public Lands in Wyoming. Bureau of Land Management, Wyoming State Office. Cheyenne, WY.
- Call, M.W. 1979. Habitat requirements and management recommendations for sage grouse. USDI-BLM Denver Serv. Center Tech. Note 330.

Cassity, M. 2007. Stock raising, ranching, and homesteading in the Powder River Basin historic context study. Prepared for the USDI Bureau of Land Management by Historical Research and Photography. Broken Arrow, OK.

Derner, J.D., W.K. Lauenroth, P. Stapp, and D.J. Augustine. 2009. Livestock as ecosystem engineers for grassland bird habitat in the Western Great Plains of North America. *J. Rangeland Ecol. & Mgmt.* 62:111-118.

Doherty, K.E. 2008. Population density model provided to BFO BLM as GIS data. Personal Communication.

Fulgham, K.O., M.A. Smith, and J.C. Malechek. 1982. A compatible grazing relationship can exist between domestic sheep and mule deer, p. 458–478. *In*: J.M. Peek and P.D. Dalke (eds.) *Proc. of the Wildlife-Livestock Relationships Symp.* Idaho For., Wildl. and Range Exp. Sta., Univ. Idaho, Moscow, ID.

Harniss, R.O., and H.A. Wright. 1982. Summer grazing of sagebrush-grass range by sheep. *J. of Range Management* 35:13-17.

Leopold, L. B., and J. P. Miller. 1954. A postglacial chronology for some alluvial valleys in Wyoming. USDI Geological Survey. Geological Survey Water Supply Paper 1261.

Mack, R.N. and J.N. Thompson. 1982. Evolution in steppe with few large, hooved mammals. *American Naturalist* 119: 757-773.

Manier, D.J. and N.T. Hobbs. 2007. Large herbivores in sagebrush steppe ecosystems: Livestock and wild ungulates influence structure and function. *Oecologia.* 152:739-750.

Merritt, S., C. Prosser, K. Sedivec, and D. Bangsund. 2001. Multi-species grazing and leafy spurge. U.S.D.A.-ARS Team Leafy Spurge, Sidney, MT.

Missouri River Basin Investigations (MRB). 1957. Land Planning and Classification Project.

Mosley, J. C. 1996. Prescribed sheep grazing to suppress cheatgrass: A review. *Sheep and Goat Res. J.* 12:74-81.

Olson, B.E. and R.T. Wallander. 2001. Sheep grazing spotted knapweed and Idaho fescue. *J. Range Manage.* 54:25–30.

Patterson, R.L. 1952. The sage grouse in Wyoming. Sage Books, Inc., Denver, CO.

Peters, E.F. and S.C. Bunting. 1994. Fire conditions pre- and post- occurrence of annual grasses on the Snake River Plain, p. 31–36. *In*: *Proceedings-Ecology and Management of Annual Rangelands.* Gen. Tech. Rep. INT-GTR 313. USDA Forest Service, Intermountain Research Station, Ogden, UT.

Riggs, R.A. and P.J. Urness. 1989. Effects of goat browsing on Gambel oak communities in northern Utah. *J. Range Manage* 42:354–360.

Sanders, K.D. and A.S. Voth. 1983. Ecological changes of grazed and ungrazed plant communities, p. 176–179. *In*: S.B. Monsen and N. Shaw (eds.) *Managing Intermountain Rangelands - Improvement of Range and Wildlife Habitats*. U.S.D.A. For. Serv., Gen. Tech. Rept. INT-157.

Smith, M.A., J.C. Malechek and K.O. Fulgham. 1979. Forage selection by mule deer on winter range grazed by sheep in spring. *J. Range Manage.* 32:40–45.

State wildlife agencies' ad hoc committee for sage-grouse and oil and gas development. 2008. Using the best available science to coordinate conservation actions that benefit greater sage-grouse across states affected by oil and gas development in Management Zones I-II (Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming). Unpublished report. Colorado Division of Wildlife, Denver; Montana Fish, Wildlife and Parks, Helena; North Dakota Game and Fish Department, Bismarck; Utah Division of Wildlife Resources, Salt Lake City; Wyoming Game and Fish Department, Cheyenne.

Taylor, R. L., D. E. Naugle, L. S. Mills. 2012. Viability analyses for conservation of sage-grouse populations: Buffalo Field Office, Wyoming. Final Report. February 27, 2012. University of Montana, Missoula, MT.

Tisdale, E. W. 1994. Great Basin region: sagebrush types. T.N. Shiflet ed. *Rangeland Cover Types*. Society for Range Management. Denver, CO. 40-46.

U.S. Department of Agriculture Natural Resources Conservation Service (USDA NRCS). 2008. *Ecological Site Descriptions for MLRAs 46,58B*.

U.S. Fish and Wildlife Service (USFWS). 2010. 12-Month Findings for Petitions to List the Greater Sage-Grouse (*Centrocercus urophasianus*) as Threatened or Endangered. Denver, CO.

Wambolt, C.L. and G.F. Payne. 1986. An 18-year comparison of control methods for Wyoming big sagebrush in southwestern Montana. *J. Range Manage.* 39:314–319.

West, N.E. 1999. Managing for biodiversity of rangelands, p. 101–126. *In*: W.W. Collins and C.O. Qualset (eds.) *Biodiversity in Agrosystems*. CRC Press, Boca Raton, FL.

Wyoming Game and Fish Department (WGFD). 2008. Sheridan Region Wyoming Game and Fish Department: Annual Sage-Grouse Completion Report for 2008. Wyoming Game and Fish Department. Gillette, WY.

WGFD. 2011a. 2011 Sheridan Region Annual Big Game Herd Unit Reports. WGFD. Cheyenne, WY.

WGFD. 2011b. 2011 Sheridan Region Lek Monitoring Results.

